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	L #	Hits	Search Text
1	L1	187233	st or gc-c
2	L2	43600	receptor
3	L3	9484	1 and 2
4	L4	17477	metastas$4 or invasion or invad$2
5	L5	1597	3 and 4
6	L6	26807	colorectal or intestin$3
7	L7	648	5 and 6
8	L8	8722	435/4,6.ccls.
9	L9	1444	436/63,64.ccls.
10	L10	102	7 and (8 or 9)
11	L11	1928	(lamina adj propria) or laminapropria or (basement adj membrane)
12	L12	22	10 and 11
13	L13	190029	st or gc-c or sta or (heat-stable adj enterotoxin) or (guanylyl adj cyclase)
14	L14	9742	13 and 2
15	L15	1622	14 and 4
16	L16	662	15 and 6
17	L17	107	16 and (8 or 9)
18	L18	22	17 and 11

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(FILE 'HOME' ENTERED AT 13:32:53 ON 27 JAN 2001)

FILE 'MEDLINE, EMBASE, BIOSIS, CAPLUS' ENTERED AT 13:33:06 ON 27 JAN 2001
L1 321334 S STA OR ST OR ENTEROTOXIN OR GCC OR GC-C
L2 1742139 S RECEPTOR
L3 614191 S TRANSCRIPTION OR SPLICE VARIANT OR MESSAGE
L4 244 S L1 AND L2 AND L3
L5 832343 S INTESTIN? OR COLORECTAL
L6 48 S L4 AND L5
L7 27 DUP REM L6 (21 DUPLICATES REMOVED)

L7 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:275313 CAPLUS
DOCUMENT NUMBER: 132:313670
TITLE: Coated substrates for blood, plasma, or tissue washing
and columns equipped with these substrates
INVENTOR(S): Dunzendorfer, Udo; Will, Gottfried
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 30 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19845286	A1	20000427	DE 1998-19845286	19981001
EP 1004598	A2	20000531	EP 1999-118541	19990918
EP 1004598	A3	20000607		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: DE 1998-19845286 19981001

AB Columns, filters, cannulas, etc. contg. substrates coated with specific antibodies can be used during plasmapheresis to remove pathogenic cytokines such as tumor necrosis factor (TNF), anti-TNF, fragments of TNF or anti-TNF, or TNF transport proteins from blood, plasma, or tissues. The substrates may addnl. be coated with antibodies to microbial or viral pathogens or mixts. of pathogens as well as to polysaccharide antigens, viral capsids, microbial antigens, reverse transcriptase, endothelin, protein A, etc. Selective removal of these pathogens, antigens, proteins, etc. leaves all normal plasma components unchanged and obviates the need for supplementation of the plasma with these components. Suitable substrates include polymers, polymer-coated metals, cellulose derivs., starch, and Sepharose; these may be derivatized for covalent binding of the pathogens or pathogenic mols. Thus, Escherichia coli pyelonephritis was successfully treated by plasmapheresis coupled with columns loaded with anti-TNF-.alpha. for 14 days, 4 h/day, as detd. by decreases in plasma TNF-.alpha. levels and colony counts in urine cultures.

L7 ANSWER 2 OF 27 MEDLINE
ACCESSION NUMBER: 2000174584 MEDLINE
DOCUMENT NUMBER: 20174584

TITLE: A ***splice*** ***variant*** of the transcript for guanylyl cyclase C is expressed in human colon and ***colorectal*** cancer cells.
AUTHOR: Pearlman J M; Prawer S P; Barber M T; Parkinson S J; Schulz
S; Park J; Zook M; Waldman S A
CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania 19107, USA.
CONTRACT NUMBER: HL59214 (NHLBI)
CA75123 (NCI)
CA79663 (NCI)
+
SOURCE: DIGESTIVE DISEASES AND SCIENCES, (2000 Feb) 45 (2) 298-305.
Journal code: EAD. ISSN: 0163-2116.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200005
ENTRY WEEK: 20000504
AB Guanylyl cyclase C is a sensitive and specific biomarker for metastatic ***colorectal*** cancer. A variant of the guanylyl cyclase C transcript
was identified that possesses a 142-bp deletion at the 3' end of exon 1 reflecting alternative splicing of mRNA, introducing a shift in the open reading frame that prevents translation of a guanylyl cyclase C-related product. This variant was identified in human ***intestine*** and colon carcinomas, but not in extraintestinal tissues or tumors. These studies demonstrate that ***GCC*** and the ***splice*** ***variant*** contribute to the pool of ***GCC*** transcripts detected by RT-PCR in human tissues. They indicate that primers for RT-PCR
that amplify regions downstream from the deletion are required to assess the full complement of ***GCC*** transcripts (***GCC*** + ***GCC*** (var)) in human tissues and body fluids for staging and postoperative surveillance of patients with ***colorectal*** cancer.

L7 ANSWER 3 OF 27 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 1
ACCESSION NUMBER: 2000:254474 BIOSIS
DOCUMENT NUMBER: PREV200000254474
TITLE: The guanylyl cyclase family in medaka fish Oryzias latipes.
AUTHOR(S): Kusakabe, Takehiro; Suzuki, Norio (1)
CORPORATE SOURCE: (1) Division of Biological Sciences, Graduate School of Science, Hokkaido University, Sapporo, 060-0810 Japan
SOURCE: Zoological Science (Tokyo), (March, 2000) Vol. 17, No. 2, pp. 131-140. print..
ISSN: 0289-0003.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Guanylyl cyclase (GC) converts GTP into cGMP, an intracellular second messenger involved in a wide variety of cellular, developmental, and neuronal processes. Medaka fish, a small teleost, Oryzias latipes has been
used to study organization and transcriptional regulation of the guanylyl cyclase gene family. Medaka fish expresses virtually all types of GCs found in mammals. Eight membrane GCs (OIGC1-7 and OIGC-R2) have been identified in medaka fish. OIGC1, OIGC2, and OIGC7 belong to the

natriuretic peptide ***receptor*** subfamily. OIGC6 is a homologue of the mammalian ***GC*** - ***C*** , an ***enterotoxin*** /guanylin ***receptor*** , expressed predominantly in the ***intestine*** . OIGC3, OIGC4, OIGC5, and OIGC-R2 are members of the sensory organ-specific GC subfamily where they are differentially expressed in rods and cones of the retina and in the pineal organ. Complete genomic DNA sequences have been determined for the OIGC1 and OIGC6 genes. Their exon-intron organization is highly conserved between fish and mammals. The medaka fish genome also contains genes encoding alpha and beta subunits of the cytoplasmic form of GC (soluble GC), which is activated by nitric oxide. The two subunit genes are closely linked in tandem in the order of alpha and beta. Function of cis-regulatory regions of medaka fish GC genes have been investigated in transgenic medaka fish embryos and in mammalian cell lines. The upstream region of the alpha subunit gene of soluble GC appears to regulate expression of both alpha and beta subunit genes, suggesting a mechanism of coordinated ***transcription*** of the two subunit genes. The upstream regions sufficient for the tissue-specific expression of sensory organ GCs also have been determined by transgenic analysis. Readiness for genetics and genetic manipulations in medaka fish would make this small fish a useful experimental system for studying the regulation of gene expression and roles of the guanylyl cyclase family in vertebrates.

L7 ANSWER 4 OF 27 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2000349417 MEDLINE
DOCUMENT NUMBER: 20349417
TITLE: ***Intestine*** -specific activity of the human guanylyl cyclase C promoter is regulated by Cdx2.
AUTHOR: Park J; Schulz S; Waldman S A
CORPORATE SOURCE: Division of Clinical Pharmacology, Department of Medicine and Biochemistry, Thomas Jefferson University, Philadelphia, Pennsylvania, USA.
CONTRACT NUMBER: RO1 HL659214 (NHLBI)
RO1 CA75123 (NCI)
R21 CA79663 (NCI)
+
SOURCE: GASTROENTEROLOGY, (2000 Jul) 119 (1) 89-96.
Journal code: FH3. ISSN: 0016-5085.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals; Cancer Journals
ENTRY MONTH: 200010
ENTRY WEEK: 20001001
AB BACKGROUND & AIMS: The heat-stable ***enterotoxin*** ***receptor*** , guanylyl cyclase C, exhibits an ***intestine*** -specific pattern of expression. The aim of this study was to identify the transcriptional activator that mediates ***intestine*** -specific expression of guanylyl cyclase C. METHODS: Fragments of the promoter were assayed to isolate regions directing ***intestine*** -specific gene activation. Deoxyribonuclease I footprinting was used to identify a site of ***intestine*** -specific protection. Electrophoretic mobility shift assays (EMSAs) and supershift analyses were used to characterize the

protein that bound to the protected site. The protected site was mutated to analyze its role in promoter activity. RESULTS: Reporter gene assays revealed that ***intestine*** -specific expression of guanylyl cyclase C is directed by the proximal promoter. Deoxyribonuclease I footprinting identified a specific site in the proximal promoter that exhibited ***intestine*** -specific protection. EMSAs and supershift analyses revealed that the ***transcription*** factor Cdx2 bound to an ***intestine*** -specific site of protection. Mutation of the Cdx2-protected site of the promoter eliminated binding of Cdx2 and reduced reporter gene activity to the level of extraintestinal cells. CONCLUSIONS: These data show that Cdx2 and its consensus-binding site in the promoter are required for ***intestine*** -specific expression of the guanylyl cyclase C gene.

L7 ANSWER 5 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2000389907 EMBASE

TITLE: Guanylyl cyclase-C ***receptor*** mRNA distribution along the rat nephron.

AUTHOR: Carrithers S.L.; Taylor B.; Cai W.Y.; Johnson B.R.; Ott C.E.; Greenberg R.N.; Jackson B.A.

CORPORATE SOURCE: S.L. Carrithers, Division of Infectious Diseases, University of Kentucky, Lexington Vet. Affairs Medical Ctr., 1101 VA Drive, Lexington, KY 40506, United States. slcaru0@pop.uky.edu

SOURCE: Regulatory Peptides, (24 Nov 2000) 95/1-3 (65-74). Refs: 51 ISSN: 0167-0115 CODEN: REPPDY

PUBLISHER IDENT.: S 0167-0115(00)00139-7

COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology
029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Guanylin (GN) and uroguanylin (UGN) are two recently identified peptides that have been shown to affect water and electrolyte transport in both the ***intestine*** and the kidney. Mechanistically, the effects of both peptides are thought to be mediated by intracellular cGMP which results from ligand binding to a plasma membrane guanylyl cyclase-C (***GC*** - ***C***) ***receptor*** . To date, the specific intrarenal site(s) of GN and UGN action have not been established. To begin to address this issue, the present studies utilized semi-quantitative RT-PCR to assess the distribution of ***GC*** - ***C*** mRNA in specific microdissected segments of the rat nephron. ***GC*** - ***C*** mRNA expression was highest in the cortical collecting tubule, followed by the proximal convoluted tubule, medullary thick ascending limb and collecting tubule, and thin limbs of Henle's loop. Expression levels were significantly lower in all other segments tested, including the glomerulus. The renal tubular expression pattern for cGMP-dependent protein kinase II (cGK-II) mRNA, which is activated in response to GN/UGN-dependent cGMP accumulation, was similar to that for ***GC*** - ***C*** . Notably, both GN and UGN mRNAs were also expressed along the nephron. The highest levels of expression for both peptides were detected in the medullary collecting

tubule. Lower, but comparable levels of GN and UGN expression also occurred in the cortical collecting tubule, cortical and medullary thick ascending limb, and thin limbs of Henles loop. In the proximal convoluted tubule, GN mRNA expression was also quite high, while UGN mRNA was almost undetectable. The presence of renal ***GC*** - ***C*** and cGK-II in the kidney are consistent with a proposed endocrine function for GN and UGN. In addition however, the present data suggest that intrarenally synthesized GN and UGN may also contribute to the regulation of renal tubular transport. (C) 2000 Elsevier Science B.V.

L7 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:529282 CAPLUS
DOCUMENT NUMBER: 131:154480
TITLE: Methods for obtaining a cell-specific binding molecule that increases uptake and/or specificity of a genetic vaccine to a target cell
INVENTOR(S): Punnonen, Juha; Stemmer, Willem P. C.; Howard, Russell; Patten, Phillip A.
PATENT ASSIGNEE(S): Maxygen, Inc., USA
SOURCE: PCT Int. Appl., 78 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9941402	A2	19990819	WO 1999-US3023	19990210
WO 9941402	A3	19991111		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9926742	A1	19990830	AU 1999-26742	19990210
EP 1053343	A2	20001122	EP 1999-906949	19990210
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRIORITY APPLN. INFO.:			US 1998-21769	19980211
			US 1998-74294	19980211
			WO 1999-US3023	19990210

AB The present invention provides methods for obtaining a cell-specific binding mol. that is useful for increasing uptake or specificity of a genetic vaccine to a target cell. The methods involve (1) creating a library of recombinant polynucleotides encoding polypeptides with a nucleic acid binding domain and polypeptides with a cell-specific binding domain; and (2) screening said library for recombinant polynucleotides that encode mols. that can bind to a nucleic acid and also to a cell-specific ***receptor*** . Specifically, the invention describes the use of the DNA shuffling method to evolve ***receptor*** binding components of enterotoxins derived from Vibrio cholerae and enterotoxigenic strains of E. coli for improved attachment to cell surface

receptors and for improved entry to and transport across the cells of the ***intestinal*** epithelium. An antigen of interest can be fused to these toxin subunits to facilitate the screening of evolved ***enterotoxin*** subunits, and also to facilitate oral delivery of proteins. The invention also provides methods of evolving a bacteriophage-derived vaccine delivery vehicle to obtain a delivery vehicle having enhanced ability to enter a target cell.

L7 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:126917 CAPLUS
DOCUMENT NUMBER: 130:192711
TITLE: Diagnosis of ***colorectal*** cancer metastasis with PCR primers for CRCA-1 transcript
INVENTOR(S): Waldman, Scott A.; Pearlman, Joshua M.; Barber, Michael T.; Schulz, Stephanie; Parkinson, Scott J.
PATENT ASSIGNEE(S): Thomas Jefferson University, USA
SOURCE: PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907726	A1	19990218	WO 1998-US16440	19980807
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6120995	A	20000919	US 1997-908643	19970807
AU 9887744	A1	19990301	AU 1998-87744	19980807
EP 1003769	A1	20000531	EP 1998-939279	19980807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRIORITY APPLN. INFO.:			US 1997-908643	19970807
			WO 1998-US16440	19980807

AB Detection of a CRCA-1 transcript in extraintestinal tissue or body fluid is disclosed as a method of diagnosing ***colorectal*** cancer metastases. The CRCA-1 transcript is an alternatively spliced transcript of the ***ST*** ***receptor*** / ***receptor*** guanylate cyclase ***GCC*** . This mRNA has a deletion in the first exon in the coding region of the ***ST*** ***receptor*** . The deletion results in a frameshift of the coding region such that it no longer encodes the ***ST*** ***receptor*** . The expression pattern of the ***splice*** ***variant*** is the same as that of the full-length ***receptor*** .
REFERENCE COUNT: 1
REFERENCE(S): (1) Waldman; US 5601990 A 1997 CAPLUS

L7 ANSWER 8 OF 27 MEDLINE
ACCESSION NUMBER: 1999221139 MEDLINE
DOCUMENT NUMBER: 99221139
TITLE: Detection of cytokeratins 19/20 and guanylyl cyclase C in peripheral blood of ***colorectal*** cancer patients.
AUTHOR: Bustin S A; Gyselman V G; Williams N S; Dorudi S
CORPORATE SOURCE: Academic Department of Surgery, St Bartholomew's and the Royal London School of Medicine and Dentistry, UK.
SOURCE: BRITISH JOURNAL OF CANCER, (1999 Apr) 79 (11-12) 1813-20. Journal code: AV4. ISSN: 0007-0920.
PUB. COUNTRY: SCOTLAND: United Kingdom

(CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199907
ENTRY WEEK: 19990702
AB The clinical significance of detecting supposed tumour cell-derived mRNA transcripts in blood using the polymerase chain reaction (PCR) remains unclear. We have used a fully quantitative 5'-nuclease RT-PCR assay to screen for the expression of cytokeratins (ck) 19 and 20 and guanylyl cyclase C (***GCC***) in the peripheral blood of 21 healthy controls and 27 ***colorectal*** cancer patients. Expression of cytokeratin 19 and 20 mRNA was detected in 30% and 100% of samples, respectively, taken from healthy volunteers. There was no apparent difference in ck19 and ck20 mRNA ***transcription*** levels between controls and patients, or between patients with different Dukes' stages. While ***GCC*** mRNA was detected in only 1/21 control samples, it was expressed in approximately 80% of patients, although again there was no correlation between ***GCC*** levels and disease stage. ***Transcription*** levels of all three markers varied considerably between samples, even between samples taken from the same person at different times. We conclude that neither ck19 nor ck20 are reliable markers for the detection of colon epithelial cells in peripheral blood and that an evaluation of the usefulness of ***GCC*** awaits further longitudinal studies.

L7 ANSWER 9 OF 27 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2000025711 MEDLINE
DOCUMENT NUMBER: 20025711
TITLE: Renal effects of uroguanylin and guanylin in vivo.
AUTHOR: Carrithers S L; Hill M J; Johnson B R; O'Hara S M; Jackson B A; Ott C E; Lorenz J; Mann E A; Giannella R A; Forte L R; Greenberg R N
CORPORATE SOURCE: Department of Internal Medicine, Division of Infectious Diseases, VA Medical Center, University of Kentucky, Lexington, KY 40536-0084, USA.
SOURCE: BRAZILIAN JOURNAL OF MEDICAL AND BIOLOGICAL RESEARCH, (1999 Nov) 32 (11) 1337-44.
Journal code: BOF. ISSN: 0100-879X.
PUB. COUNTRY: Brazil
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY WEEK: 20000401
AB Uroguanylin and guanylin are newly discovered endogenous heat-stable peptides that bind to and activate a membrane bound guanylyl cyclase signaling ***receptor*** (termed guanylyl cyclase C; ***GC*** - ***C***). These peptides are not only found in blood but are secreted into the lumen of the ***intestine*** and effect a net secretion of electrolytes (Na+, K+, Cl-, HCO3-) and fluid into the ***intestine*** via a cyclic guanosine-3', 5'-monophosphate (cGMP) mechanism. ***GC*** - ***C*** is also the ***receptor*** for Escherichia coli heat-stable ***enterotoxin*** (***STa***) and activation by ***STa*** results in a diarrheal illness. Employing mouse renal in

vivo
models, we have demonstrated that uroguanylin, guanylin, and ***STa*** elicit natriuretic, kaliuretic, and diuretic effects. These biological responses are time- and dose-dependent. Maximum natriuretic and kaliuretic
effects are observed within 30-40 min following infusion with pharmacological doses of the peptides in a sealed-urethra mouse model. Our
mouse renal clearance model confirms these results and shows significant natriuresis following a constant infusion of uroguanylin for 30 min, while
the glomerular filtration rate, plasma creatinine, urine osmolality, heart
rate, and blood pressure remain constant. These data suggest the peptides act through tubular transport mechanisms. Consistent with a tubular mechanism, messenger RNA-differential display PCR of kidney RNA extracted from vehicle- and uroguanylin-treated mice show the ***message*** for the Na+/K+ ATPase gamma-subunit is down-regulated. Interestingly, ***GC*** - ***C*** knockout mice (Gucy2c -/-) also exhibit significant
uroguanylin-induced natriuresis and kaliuresis in vivo, suggesting the presence of an alternate ***receptor*** signaling mechanism in the kidney. Thus, uroguanylin and guanylin seem to serve as ***intestinal***
and renal natriuretic peptide-hormones influencing salt and water transport in the kidney through ***GC*** - ***C*** dependent and independent pathways. Furthermore, our recent clinical probe study has revealed a 70-fold increase in levels of urinary uroguanylin in patients with congestive heart failure. In conclusion, our studies support the concept that uroguanylin and guanylin are endogenous effector peptides involved in regulating body salt and water homeostasis.

L7 ANSWER 10 OF 27 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 1999170568 MEDLINE
DOCUMENT NUMBER: 99170568
TITLE: Hepatocyte nuclear factor-4 regulates ***intestinal*** expression of the guanylin/heat-stable toxin ***receptor*** .
AUTHOR: Swenson E S; Mann E A; Jump M L; Giannella R A
CORPORATE SOURCE: Division of Digestive Diseases, Veterans Affairs Medical Center and University of Cincinnati College of Medicine, Cincinnati, Ohio 45267, USA.
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1999 Mar) 276 (3 Pt 1) G728-36.
Journal code: 3U8. ISSN: 0002-9513.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199906
ENTRY WEEK: 19990603
AB We have investigated the regulation of gene ***transcription*** in the
intestine using the guanylyl cyclase C (***GCC***) gene as a
model. ***GCC*** is expressed in crypts and villi in the small ***intestine*** and in crypts and surface epithelium of the colon. DNase
I footprint, electrophoretic mobility shift assay (EMSA), transient transfection assays, and mutagenesis experiments demonstrated that

GCC ***transcription*** is regulated by a critical hepatocyte nuclear factor-4 (HNF-4) binding site between bp -46 and -29 and that bp -38 to -36 were essential for binding. Binding of HNF-4 to the ***GCC*** promoter was confirmed by competition EMSA and by supershift EMSA. In Caco-2 and T84 cells, which express both ***GCC*** and HNF-4, the activity of ***GCC*** promoter and/or luciferase reporter plasmids containing 128 or 1973 bp of 5'-flanking sequence was dependent on the HNF-4 binding site in the proximal promoter. In COLO-DM cells, which express neither ***GCC*** nor HNF-4, cotransfection of ***GCC*** promoter/luciferase reporter plasmids with an HNF-4 expression vector resulted in 23-fold stimulation of the ***GCC*** promoter. Mutation of the HNF-4 binding site abolished this transactivation. Transfection of COLO-DM cells with the HNF-4 expression vector stimulated ***transcription*** of the endogenous ***GCC*** gene as well. These results indicate that HNF-4 is a key regulator of ***GCC*** expression in the ***intestine*** .

L7 ANSWER 11 OF 27 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 1999160600 MEDLINE
DOCUMENT NUMBER: 99160600
TITLE: Sequence analysis of cDNA and genomic DNA, and mRNA expression of the medaka fish homolog of mammalian guanylyl cyclase C.
AUTHOR: Mantoku T; Muramatsu R; Nakauchi M; Yamagami S; Kusakabe T; Suzuki N
CORPORATE SOURCE: Division of Biological Sciences, Graduate School of Science, Hokkaido University, Kita-ku, Sapporo, 060-0810, Japan.
SOURCE: JOURNAL OF BIOCHEMISTRY, (1999 Mar) 125 (3) 476-86. Journal code: HIF. ISSN: 0021-924X.
PUB. COUNTRY: Japan
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AB007192; GENBANK-AB016081; GENBANK-AB016082
ENTRY MONTH: 199909
ENTRY WEEK: 19990901
AB We isolated the cDNA and genomic DNA encoding a membrane guanylyl cyclase of medaka fish (designated as OlGC6), and determined their complete nucleotide sequences. The open reading frame for OlGC6 cDNA predicted a protein of 1,075 amino acids. Phylogenetic analysis indicated that OlGC6 is a member of the ***enterotoxin*** /guanylin ***receptor*** family. We also determined the partial genomic structure of the gene of another membrane guanylyl cyclase of medaka fish, OlGC2, which is a member of the natriuretic peptide ***receptor*** family. The intron positions relative to the protein-coding sequence are highly conserved in the intracellular domains of OlGC6, OlGC2, mammalian GC-A, and GC-E. Despite their divergent primary structures, some intron positions also seem to be conserved in the extracellular domains of different membrane guanylyl cyclase genes. Northern blot analysis demonstrated that an OlGC6 transcript of 3.9 kb is only present in the ***intestine*** , while

reverse ***transcription*** (RT)-PCR analysis demonstrated that the O1GC6 transcript is present in the kidney, spleen, liver, pancreas, gallbladder, ovary, testis, brain, and eye. RT-PCR also demonstrated that O1GC6 is only expressed zygotically and that transcripts are present from 1 day after fertilization, i.e. long before the ***intestinal*** tissues begin to develop.

L7 ANSWER 12 OF 27 MEDLINE
ACCESSION NUMBER: 1999211967 MEDLINE
DOCUMENT NUMBER: 99211967
TITLE: Gene expression of vasoactive ***intestinal*** contractor/endothelin-2 in ovary, uterus and embryo: comprehensive gene expression profiles of the endothelin ligand- ***receptor*** system revealed by semi-quantitative reverse ***transcription*** -polymerase chain reaction analysis in adult mouse tissues and during late embryonic development.
AUTHOR: Uchide T; Masuda H; Mitsui Y; Saida K
CORPORATE SOURCE: National Institute of Bioscience and Human-Technology, Agency of Industrial Science and Technology, Tsukuba, Ibaraki 305-8566, Japan.
SOURCE: JOURNAL OF MOLECULAR ENDOCRINOLOGY, (1999 Apr) 22 (2) 161-71.
Journal code: AEG. ISSN: 0952-5041.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199908
ENTRY WEEK: 19990802
AB Vasoactive ***intestinal*** contractor (VIC)/endothelin-2 (ET-2) is a 21 amino acid ***intestinal*** peptide characterized as a potent vasoactive and ***intestinal*** smooth muscle-contracting compound. To investigate the physiological roles of VIC/ET-2 further, we characterized the specificity of VIC gene expression relative to that of other members of the endothelin (ET) ligand- ***receptor*** system in adult mouse tissues and during embryonic development. Gene expression of ET-1, ET-3, ETA and ETB was ubiquitous in almost all tissues we examined while gene expression of VIC was localized to certain tissues. A high level of VIC gene expression was observed in ovary and uterus. The gene expression of VIC, relative to that of glyceraldehyde-3-phosphate dehydrogenase, was approximately 2.0%, 0.4%, and 2.3% in ovary, uterus, and ***intestine*** respectively, and was approximately 1.6 and 7. 1 times higher than that of ET-1 in ovary and ***intestine*** respectively. Thus, VIC may have some physiological role in adult ovary and uterus as well as ***intestine*** . In embryonic development, VIC gene expression sharply increased between 11 and 15 days post coitus and decreased after birth, suggesting an involvement in the later stages of embryonic development.

L7 ANSWER 13 OF 27 MEDLINE
ACCESSION NUMBER: 1998431831 MEDLINE
DOCUMENT NUMBER: 98431831
TITLE: Cl- transport in an immortalized human epithelial cell line (NCM460) derived from the normal transverse colon.
AUTHOR: Sahi J; Nataraja S G; Layden T J; Goldstein J L; Moyer M

P;

Rao M C

CORPORATE SOURCE: Department of Physiology and Biophysics, University of Illinois at Chicago, Chicago, Illinois 60612, USA.

CONTRACT NUMBER: DK-38510 (NIDDK)
DK-46910 (NIDDK)
HL-48497 (NHLBI)
+
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1998 Oct) 275 (4 Pt 1) C1048-57.
Journal code: 3U8. ISSN: 0002-9513.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199901
ENTRY WEEK: 19990104

AB Cells of a newly described, immortalized, epithelial, human transverse colonic cell line, NCM460, reach approximately 90% confluence on plastic and develop transepithelial resistances of 120-250 Omega . cm2 on porous substrates. Its utility as a model for the transverse human colon was validated by comparing second messenger-mediated Cl- transport, using the fluorescent probe 6-methoxy-quinolyl acetoethyl ester, in NCM460 cells and colonocytes isolated from human transverse crypts. Basal Cl- influx was increased (P < 0.01) by PGE1 (1 microM), forskolin (1 microM), 8-bromoadenosine 3'5'-cyclic monophosphate (100 microM), heat-stable Escherichia coli ***enterotoxin*** (***STa*** ; 1 microM), 8-bromoguanosine 3'5'-cyclic monophosphate (100 microM), histamine (1 microM), and phorbol 12,13-dibutyrate (1 microM) in both cell types. The Cl- channel blocker diphenylamine 2-carboxylic acid (50 microM) and the Na+-K+-2Cl- cotransport inhibitor furosemide (1 microM), but not the K+ channel blocker Ba2+ (3 mM), inhibited these Cl- permeabilities. These cells possess transcripts for cystic fibrosis transmembrane conductance regulator, Na+-K+-2Cl- cotransporter, ***STa*** ***receptor*** , and ***intestine*** -specific cGMP-dependent protein kinase II. Thus cAMP-, cGMP-, and Ca2+-dependent secretagogues act on NCM460 and primary colonocytes to stimulate Cl- transport. This validates the utility of NCM460 as a model for transverse colonic crypts and is the first demonstration of a colonic cell line whose origin is known.

L7 ANSWER 14 OF 27 MEDLINE

ACCESSION NUMBER: 1998303197 MEDLINE
DOCUMENT NUMBER: 98303197

TITLE: Heterogeneity of guanylyl cyclase C expressed by human ***colorectal*** cancer cell lines in vitro.

AUTHOR: Waldman S A; Barber M; Pearlman J; Park J; George R; Parkinson S J

CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania 19107, USA..
waldmans@jeflin.tju.edu

SOURCE: CANCER EPIDEMIOLOGY, BIOMARKERS AND PREVENTION, (1998 Jun) 7 (6) 505-14.
Journal code: BNJ. ISSN: 1055-9965.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199811
ENTRY WEEK: 19981101

AB In humans, guanylyl cyclase C (***GCC***) is expressed by mucosal cells lining the ***intestine*** , from the duodenum to the rectum, but not by extraintestinal tissues. Expression of ***GCC*** persists after mucosal cells undergo neoplastic transformation, and this protein has been identified in all primary and metastatic ***colorectal*** tumors examined to date, suggesting that ***GCC*** may be a highly specific biomarker for ***colorectal*** cancer. The utility of ***GCC*** as a diagnostic biomarker and therapeutic target is predicated, in part, on defining the variability of its expression in ***colorectal*** cancer cells. Similarly, the utility of this biomarker to define tumor burden in diagnosing, staging, and postoperative surveillance of patients is predicated on quantifying ***GCC*** expression in cancer cells in tissues and blood. The present studies examined the heterogeneity of ***GCC*** expression in eight human ***colorectal*** carcinoma cell lines in vitro representing the full spectrum of cytological differentiation. Quantification of ***GCC*** expression by ligand binding and stimulation of cGMP accumulation demonstrated that functional ***GCC*** expression is heterogeneous in different ***colorectal*** cancer cell lines. Qualitative reverse ***transcription*** (RT)-PCR demonstrated that all ***colorectal*** cancer cells examined expressed ***GCC*** mRNA. However, ***GCC*** expression varied 100-fold in different ***colorectal*** cancer cell lines, determined by a novel quantitative RT-PCR assay. Functional and molecular expressions of ***GCC*** were unrelated to the differentiation state of cancer cells. These studies suggest that ***GCC*** is heterogeneously expressed by ***colorectal*** cancer cells in vitro and suggest a role for quantitative RT-PCR analysis in the development of diagnostic tests using ***GCC*** as a biomarker for metastatic ***colorectal*** cancer.

L7 ANSWER 15 OF 27 MEDLINE
ACCESSION NUMBER: 1998173360 MEDLINE
DOCUMENT NUMBER: 98173360
TITLE: Use of guanylyl cyclase C for detecting micrometastases in lymph nodes of patients with colon cancer.
AUTHOR: Waldman S A; Cagir B; Rakinic J; Fry R D; Goldstein S D; Isenberg G; Barber M; Biswas S; Minimo C; Palazzo J; Park P K; Weinberg D
CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania 19107, USA.
SOURCE: DISEASES OF THE COLON AND RECTUM, (1998 Mar) 41 (3) 310-5. Journal code: EAB. ISSN: 0012-3706.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199806
ENTRY WEEK: 19980601
AB INTRODUCTION: Guanylyl cyclase C appears to be expressed only in ***colorectal*** cancer cells in extraintestinal tissues. Thus, guanylyl cyclase C may be useful as a marker to detect ***colorectal*** cancer micrometastases not detectable by histopathology in lymph nodes of

patients. METHODS: Twelve patients with colon adenocarcinoma, Dukes Stages
A through C2, and one patient with a tubulovillous adenoma were included in this study. Forty-two lymph nodes were collected from fresh surgical specimens, and each was examined by histopathology and reverse ***transcription*** followed by polymerase chain reaction using guanylyl
cyclase C-specific primers. Histopathology identified colon cancer cells in 6 of 16 lymph nodes from five Dukes Stage C patients but not in lymph nodes from the patient with a tubulovillous adenoma, the Dukes Stage A patient, or six Dukes Stage B patients. Reverse ***transcription*** followed by polymerase chain reaction using guanylyl cyclase C-specific primers was performed on all 42 lymph nodes. RESULTS: Guanylyl cyclase C messenger RNA was not detected by reverse ***transcription*** followed
by polymerase chain reaction in lymph nodes from the patient with the tubulovillous adenoma or the patient with Dukes Stage A colon carcinoma. Seven lymph nodes from Dukes Stage C patients revealed guanylyl cyclase C messenger RNA including six lymph nodes containing histopathologically confirmed metastases. Of significance, guanylyl cyclase C messenger RNA was detected in 6 of 21 lymph nodes from Dukes Stage B patients. Indeed, clinical staging of two patients could be upgraded from B to C using reverse ***transcription*** followed by polymerase chain reaction and guanylyl cyclase C-specific primers. CONCLUSION: Reverse ***transcription*** followed by polymerase chain reaction using guanylyl
cyclase C-specific primers might be useful to more accurately assess micrometastases in lymph nodes of ***colorectal*** cancer patients undergoing disease staging.

L7 ANSWER 16 OF 27 MEDLINE
ACCESSION NUMBER: 1998355753 MEDLINE
DOCUMENT NUMBER: 98355753
TITLE: Substance P ***receptor*** expression in ***intestinal*** epithelium in clostridium difficile toxin A enteritis in rats.
AUTHOR: Pothoulakis C; Castagliuolo I; Leeman S E; Wang C C; Li H; Hoffman B J; Mezey E
CORPORATE SOURCE: Division of Gastroenterology, Beth Israel Deaconess Medical
Center, Harvard Medical School, Boston, MA 02215, USA.
CONTRACT NUMBER: DK-47343 (NIDDK)
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1998 Jul) 275 (1 Pt 1) G68-75.
Journal code: 3U8. ISSN: 0002-9513.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY WEEK: 19981005
AB We previously reported that the inflammatory effects of Clostridium difficile toxin A on rat ***intestine*** can be significantly inhibited with a specific neurokinin-1 ***receptor*** (NK-1R) antagonist. In this study we investigated the localization and expression of NK-1R mRNA and protein in rat ***intestine*** by in situ hybridization, Northern blot analysis, and immunohistochemistry, respectively, after exposure to toxin A. Northern blot analysis showed increased mucosal levels of NK-1R mRNA starting 30 min after toxin A administration. In situ hybridization showed that toxin A increased NK-1R

mRNA expression in ***intestinal*** epithelial cells after 30, 120, and 180 min. In rats pretreated with the NK-1R antagonist CP-96345 the increase in NK-1R mRNA levels after exposure to toxin A was inhibited, indicating that NK-1R upregulation is substance P (SP) dependent. One hour after exposure to toxin A many of the ***intestinal*** epithelial cells showed staining for NK-1R compared with controls. Specific 125I-SP binding to purified epithelial cell membranes obtained from ileum exposed to toxin A for 15 min was increased twofold over control and persisted for 4 h. This report provides evidence that NK-1R expression is increased in the ***intestinal*** epithelium shortly after exposure to toxin A and may be important in toxin A-induced inflammation.

L7 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:216737 CAPLUS
DOCUMENT NUMBER: 128:266929
TITLE: Transcriptional regulation of the guanylin/heat-stable ***enterotoxin*** ***receptor*** : role of HNF-4 in ***intestine*** -specific gene ***transcription***
AUTHOR(S): Swenson, Eugene Scott
CORPORATE SOURCE: Univ. of Cincinnati, Cincinnati, OH, USA
SOURCE: (1997) 136 pp. Avail.: UMI, Order No. DA9814487 From: Diss. Abstr. Int., B 1998, 58(11), 5809
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L7 ANSWER 18 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 97170768 EMBASE
DOCUMENT NUMBER: 1997170768
TITLE: CD4+ T-cell population mediates development of inflammatory bowel disease in T-cell ***receptor*** .alpha. chain-deficient mice.
AUTHOR: Takahashi I.; Kiyono H.; Hamada S.
CORPORATE SOURCE: Dr. S. Hamada, Department of Oral Microbiology, Faculty of Dentistry, Osaka University, 1-8 Yamadaoka, Suita-Osaka 565, Japan
SOURCE: Gastroenterology, (1997) 112/6 (1876-1886). Refs: 41 ISSN: 0016-5085 CODEN: GASTAB
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 026 Immunology, Serology and Transplantation
048 Gastroenterology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Background and Aims: Increase of T cells expressing CD4 and T-cell ***receptor*** (TCR) .alpha. .beta.+ (B(dim)) was observed in the mucosal and peripheral lymphoid tissues of TCR .alpha.(-/-) mice with inflammatory bowel disease (IBD). The aim of this study was to characterize the CD4+ TCR .beta.+ T cells. Methods: Cytokine production, TCR V.beta. usage, and helper function for Peyer's patch B cells by the CD4+ TCR .alpha.-.beta.+ T cells were assessed. Results: The CD4+ TCR .alpha.-.beta.+ T cells purified from mesenteric lymph nodes and lamina propria of the ***intestine*** of IBD mice exclusively produced inteleukin 4, used selected subsets (V.beta.6, V.beta.8, V.beta.14, and

V.beta.15) of TCR, and massively proliferated after stimulation with staphylococcal ***enterotoxin*** B. Addition of the CD4+ TCR .alpha.-.beta.+ T cells to Peyer's patch B-cell cultures markedly enhanced immunoglobulin (Ig) A, IgG, and IgM antibody responses. Furthermore, depletion of the TCR .alpha.-.beta.+ T cells with monoclonal antibody against TCR .beta. chain completely suppressed the onset of IBD and polyclonal B-cell activation in the TCR .alpha.(-/-) mice. Conclusions: These findings suggest the CD4+ TCR .alpha.-.beta.+ T cells-mediated development of IBD in TCR .alpha.(-/-) mice.

L7 ANSWER 19 OF 27 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 1998008924 MEDLINE
DOCUMENT NUMBER: 98008924
TITLE: The uroguanylin gene (Guca1b) is linked to guanylin (Guca2) on mouse chromosome 4 [published erratum appears in Genomics 2000 May 15;66(1):122].
AUTHOR: Whitaker T L; Steinbrecher K A; Copeland N G; Gilbert D J; Jenkins N A; Cohen M B
CORPORATE SOURCE: Division of Pediatric Gastroenterology and Nutrition, Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, Ohio 45229, USA.
CONTRACT NUMBER: DK 47318 (NIDDK)
SOURCE: GENOMICS, (1997 Oct 15) 45 (2) 348-54.
Journal code: GEN. ISSN: 0888-7543.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-U95182
ENTRY MONTH: 199804
AB Uroguanylin is an endogenous ligand of the ***intestinal*** ***receptor*** guanylate cyclase-C (***GC*** - ***C***). Both uroguanylin and the related peptide ligand guanylin bind to ***GC*** - ***C*** and stimulate an increase in cyclic GMP, inducing chloride secretion via the cystic fibrosis transmembrane conductance regulator. We describe the cloning of the complete mouse uroguanylin gene (Guca1b) and show that Guca1b is tightly linked to the mouse guanylin gene on chromosome 4. The two genes are structurally similar, being composed of three short exons; the uroguanylin gene spans 2.4 kb and the guanylin gene spans 1.7 kb. Uroguanylin mRNA is most prominent in proximal small ***intestine*** , whereas guanylin mRNA is predominantly expressed in distal small ***intestine*** and colon. The upstream promoter sequence of the mouse uroguanylin gene contains a canonical TATA element at the site of ***transcription*** initiation and consensus binding sites for several known ***transcription*** factors, including HNF-1 and Sp1 within the first 1 kb. Although the gene structure and coding sequences of uroguanylin and guanylin are similar, the 5' flanking sequences and patterns of expression of these two genes in the ***intestine*** are different. It is likely that uroguanylin and guanylin represent gene duplications that have evolved to allow overlapping and complementary patterns of expression in the ***intestine*** . Copyright 1997 Academic

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L7 ANSWER 20 OF 27 MEDLINE
ACCESSION NUMBER: 1998402315 MEDLINE
DOCUMENT NUMBER: 98402315
TITLE: The guanylin and uroguanylin peptide hormones and their receptors.
AUTHOR: Krause W J; London R M; Freeman R H; Forte L R
CORPORATE SOURCE: Department of Pathology and Anatomical Sciences, University of Missouri, Columbia, Mo., USA.
SOURCE: ACTA ANATOMICA, (1997) 160 (4) 213-31. Ref: 144
Journal code: 09A. ISSN: 0001-5180.
PUB. COUNTRY: Switzerland
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199812
ENTRY WEEK: 19981201
AB Guanylin and uroguanylin are newly discovered, related peptides that activate common guanylyl cyclase signaling molecules and via 3', 5'-guanosine cyclic monophosphate regulate the activity of a variety of tissues and organs. Additionally, the ***message*** for both peptides is expressed in a variety of tissues and organs, including the ***intestinal*** tract and kidney, and thus may serve as part of a functional endocrine axis linking these two major organ systems in fluid/volume homeostasis. This manuscript reviews the discovery and nature of the guanylin and uroguanylin peptides, their actions on the ***intestinal*** mucosa and kidney, the distribution and molecular biology of the guanylyl cyclase C ***receptor*** , and explores the future directions of this rapidly developing, expanding field of inquiry.

L7 ANSWER 21 OF 27 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1997:188710 BIOSIS
DOCUMENT NUMBER: PREV199799487913
TITLE: The E. coli heat-stable ***enterotoxin*** ***receptor*** is a specific marker for metastatic ***colorectal*** cancer in extraintestinal tissues and blood.
AUTHOR(S): Waldman, S. A. (1); Barber, M.; Biswas, S.; Carrithers, S. L.; Parkinson, S. J.; Park, P.; Goldstein, S.
CORPORATE SOURCE: (1) Div. Clin. Pharmacol., Dep. Med., Thomas Jefferson Univ., Philadelphia, PA USA
SOURCE: Clinical Pharmacology & Therapeutics, (1997) Vol. 61, No. 2, pp. 194.
Meeting Info.: Abstracts of Papers to be presented at the Ninety-eight Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics San Diego, California, USA March 5-8, 1997
ISSN: 0009-9236.
DOCUMENT TYPE: Conference; Abstract
LANGUAGE: English

L7 ANSWER 22 OF 27 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97426188 MEDLINE
DOCUMENT NUMBER: 97426188
TITLE: Transcripts encoding three types of guanylyl-cyclase-

coupled trans-membrane receptors in inner ear tissues of guinea pigs.
AUTHOR: Krause G; Meyer zum Gottesberge A M; Wolfram G; Gerzer R
CORPORATE SOURCE: Abteilung fur Klinische Pharmakologie, Medizinische Klinik,
Klinikum Innenstadt der Universitat, Munich, Germany. 101.356.242@compuserve.com
SOURCE: HEARING RESEARCH, (1997 Aug) 110 (1-2) 95-106.
Journal code: HCK. ISSN: 0378-5955.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199802
ENTRY WEEK: 19980204
AB The distribution of membrane-bound guanylyl cyclase (GC) ***transcription*** in inner ear tissues of the guinea pig was addressed by a reverse ***transcription*** -PCR approach using consensus primers flanking a region of about 630 bp in the intracellular domains in the target sequences. Restriction mapping of such amplificates obtained from cochlear and vestibular specimens permitted us to demonstrate GC-A, GC-B, and ***GC*** - ***C*** expression by differentiating overall PCR signals. This assay indicated that GC-A was expressed in the cochlea and vestibular organ. PCR products resulting from transcripts of the GC-B gene were obtained at considerably lower abundance than amplificates typical of the GC-A gene. The consensus primer approach with subsequent restriction mapping provided the opportunity to examine at the same time expression of ***GC*** - ***C*** in the inner ear and revealed the occurrence of ***GC*** - ***C*** transcripts in both inner ear compartments under investigation. The distribution pattern found by analysing the intracellular domains of membrane-bound guanylyl cyclases was confirmed by demonstrating ***transcription*** of the corresponding extracellular ***receptor*** domains. In addition, single-strand conformation polymorphism analysis of cDNA amplificates comprising the catalytic domain of guanylyl cyclases also indicated the presence of ***GC*** - ***C*** expression in the inner ear tissues examined. The ***GC*** - ***C*** transcripts detected in inner ear tissues appeared to correlate with functional ***receptor*** expression, since the production of cyclic GMP catalyzed by cochlear and vestibular specimens was stimulated by 1 microM of heat-stable ***enterotoxin*** to 18 and 80% above basal levels, respectively. Thus, ***GC*** - ***C*** may be involved in the fluid regulation by typical ligands (e.g., the peptide hormone guanylin or the toxins causing travellers' diarrhea), not only in the ***intestine*** but also in the organs responsible for hearing and gravitational orientation.

L7 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:611687 CAPLUS
DOCUMENT NUMBER: 125:293392
TITLE: Coordinate expression of .beta.-galactoside .alpha.2,6-sialyltransferase mRNA and enzyme activity in suckling rat jejunum cultured in different media: transcriptional induction by dexamethasone

AUTHOR(S): Kolinska, Jirina; Zakostelecka, Marie; Hamr, Ales; Baudysova, Marie
CORPORATE SOURCE: Czech Academy Science, Institute Physiology, Prague, 142 20, Czech Rep.
SOURCE: J. Steroid Biochem. Mol. Biol. (1996), 58(3), 289-297
CODEN: JSBBEZ; ISSN: 0960-0760
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In attempting to elucidate the mol. basis of the expression of .alpha.2,6-sialyltransferase (.alpha.2,6- ***ST***) in jejunal explants of 7-day-old rats during cultivation, the total jejunal RNA was analyzed by hybridization using a cDNA clone encoding rat liver .alpha.2,6- ***ST*** . Under cultivation in both serum-free and serum-contg. media jejunal .alpha.2,6- ***ST*** mRNA closely paralleled the bound (100 000 g pellet) as well as the sol. (100 000 g supernatant) .alpha.2,6- ***ST*** activity, the correlation coeffs. being 0.976 and 0.816, resp. Dexamethasone (Dx) treatment enhanced .alpha.2,6- ***ST*** mRNA and membrane-bound .alpha.2,6- ***ST*** activity in close correlation. Jejunal .alpha.2,6- ***ST*** mRNA is sensitive to actinomycin D and is lost with apparently identical kinetics in Dx-stimulated and control explants, suggesting that regulation by Dx may be exerted by altering the rate of mRNA synthesis. Dx-dependent activation resulted in elevation of the 4.3-Kb mRNA and can be inhibited by the antiglucocorticoid onapristone, demonstrating the participation of the glucocorticoid ***receptor*** pathway.

L7 ANSWER 24 OF 27 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 96180976 MEDLINE
DOCUMENT NUMBER: 96180976
TITLE: Cell line-specific transcriptional activation of the promoter of the human guanylyl cyclase C/heat-stable ***enterotoxin*** / ***receptor*** gene.
AUTHOR: Mann E A; Jump M L; Glenella R A
CORPORATE SOURCE: Division of Digestive Diseases, University of Cincinnati College of Medicine, Cincinnati, OH 45267, USA.
SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1996 Feb 7) 1305 (1-2) 7-10.
Journal code: A0W. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
OTHER SOURCE: GENBANK-U20230
ENTRY MONTH: 199607

AB The guanylyl cyclase C protein, expressed primarily in the ***intestine*** , is the ***receptor*** for the heat-stable ***enterotoxin*** of Escherichia coli. We have isolated and sequenced the promoter region and the first exon of human guanylyl cyclase C and determined the major site of ***transcription*** initiation. Transfection of a -1973/+124 promoter/luciferase gene fusion construct in the Caco-2 ***intestinal*** cell line resulted in a high level of expression; results with deletion constructs indicate the presence of multiple positive-acting sequence elements. These promoter elements were not active upon transfection into NIH/3T3 and LLC-PK1 cell lines which do not express ***GC*** - ***C*** .

L7 ANSWER 25 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 94206474 EMBASE
DOCUMENT NUMBER: 1994206474
TITLE: Induction of heat-stable ***enterotoxin*** ***receptor*** activity by a human Alu repeat.
AUTHOR: Almenoff J.S.; Jurka J.; Schoolnik G.K.
CORPORATE SOURCE: Div. of Infectious Diseases, Duke University Medical Center, Duke South, Blue Zone,Durham, NC 27710, United States
SOURCE: Journal of Biological Chemistry, (1994) 269/24 (16610-16617).
ISSN: 0021-9258 CODEN: JBCHA3
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The heat-stable enterotoxins (***ST***) elaborated by enterotoxigenic Escherichia coli are a family of small cysteine-rich peptides that bind to specific epithelial receptors in the mammalian ***intestine*** , causing a secretory diarrhea. The expression of ***ST*** receptors is tightly regulated; they are found primarily in ***intestine*** , and their expression is developmentally modulated. One ***receptor*** for ***ST*** has been cloned, and its cDNA encodes a .apprx.120-kDa particulate guanylyl cyclase (guanylyl cyclase-C). Recent studies suggest that there are additional ***ST*** receptors that are not homologous to guanylyl cyclase-C. We used an expression cloning strategy to identify ***intestinal*** mRNAs that lead to expression of ***ST*** ***receptor*** activity in transfected cells. Using an ***ST*** -specific affinity panning system, we identified a novel 1891- base pair cDNA that does not encode a ***receptor*** protein, but instead, consists primarily of untranslated sequence. This cDNA induced ***receptor*** activity in both COS and 293 embryonic kidney cells. Northern analysis of the T84 human ***intestinal*** cell line, from which this cDNA was cloned, suggests that it is part of a 7.8-kilobase mRNA transcript. This transcript was also identified in human small ***intestine*** and colon, as well as in several extra- ***intestinal*** tissues. Functional analysis of subcloned fragments reveals that ***ST*** binding activity is induced by a 457-base pair human Alu repetitive sequence within the cDNA and that the phenotype is independent of orientation. These findings suggest that a human Alu element induces expression of a unique ***ST*** ***receptor*** by a transacting mechanism. An unrelated Alu-rich genomic clone did not confer ***ST*** binding, suggesting that there may be structural and functional specificity within individual Alu sequences.

L7 ANSWER 26 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 92357475 EMBASE
DOCUMENT NUMBER: 1992357475
TITLE: Novel sites for expression of an Escherichia coli heat-stable ***enterotoxin*** ***receptor*** in the developing rat.
AUTHOR: Laney Jr. D.W.; Mann E.A.; Dellon S.C.; Perkins D.R.; Giannella R.A.; Cohen M.B.
CORPORATE SOURCE: Pediat. Gastroenterology/Nutr. Div., Children's Hospital Medical Center, 3250 Elland Ave.,Cincinnati, OH 45229, United States
SOURCE: American Journal of Physiology - Gastrointestinal and

Liver
Physiology, (1992) 263/5 26-5 (G816-G821).
ISSN: 0002-9513 CODEN: APGPDF
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 002 Physiology
021 Developmental Biology and Teratology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Escherichia coli heat-stable ***enterotoxin*** (***STa***) mediates diarrheal disease by binding to and activating an ***intestinal*** transmembrane ***receptor*** , guanylate cyclase C (***GC*** - ***C***). To test the hypotheses that there was 1) increased perinatal expression of ***GC*** - ***C*** in rat ***intestine*** and 2) ***GC*** - ***C*** expression and ***STa*** binding in extraintestinal tissues of immature rat, we prepared whole cell membranes and total RNA from jejunum, ileum, colon, liver, kidney, heart, lung, brain, testis, and placenta of rats ranging in age from 12 days gestation to adult. Northern analysis demonstrated the presence of a unique 3.8-kb mRNA transcript at all ages in the jejunum, ileum, colon, and, to a lesser degree, in the testis. ***GC*** - ***C*** was also detected by Northern analysis in liver (from gestational age 18 days through 14 days postnatal) and in placenta. Steady-state mRNA encoding ***GC*** - ***C*** was not detected by Northern analysis in the other organs examined. ***GC*** - ***C*** -specific mRNA expression was greatest in the perinatal period in the jejunum, ileum, and liver. Specific binding of 125I-labeled ***STa*** was found in each of the tissue membranes in which ***GC*** - ***C*** mRNA was present; binding was not present in those tissues that had no detectable ***GC*** - ***C*** mRNA. The existence of ***GC*** - ***C*** in extraintestinal organs in the rat, and the developmental changes in ***GC*** - ***C*** expression support our hypothesis that ***GC*** - ***C*** , apart from its role as an ***STa*** ***receptor*** in mediating diarrheal disease, also serves as a ***receptor*** for an endogenous ligand.

L7 ANSWER 27 OF 27 MEDLINE
ACCESSION NUMBER: 92337640 MEDLINE
DOCUMENT NUMBER: 92337640
TITLE: A gradient in expression of the Escherichia coli heat-stable ***enterotoxin*** ***receptor*** exists along the villus-to-crypt axis of rat small ***intestine*** .
AUTHOR: Cohen M B; Mann E A; Lau C; Henning S J; Giannella R A
CORPORATE SOURCE: Children's Hospital Medical Center, Cincinnati, OH 45229..
CONTRACT NUMBER: DK01908 (NIDDK)
HD14094 (NICHD)
SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1992 Jul 15) 186 (1) 483-90.
Journal code: 9Y8. ISSN: 0006-291X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199210

AB Binding of Escherichia coli heat-stable ***enterotoxin*** to its ***receptor*** is critical to the initiation of toxin-induced secretion and diarrheal disease; it is also likely, however, that this ***receptor*** binds an endogenous ligand. In order to characterize the expression of the heat-stable ***enterotoxin*** ***receptor*** in the small ***intestine*** , we isolated epithelial cells from villus tip to crypt in rat jejunum and ileum. Binding of radiolabeled toxin was maximal in the villus preparations and gradually decreased along the villus-to-crypt axis, paralleling the decline of sucrase activity. Northern blots of total RNA identified a single heat stable ***enterotoxin*** ***receptor*** transcript (3.8 kb), predominantly in the villus cell fractions. In situ hybridization demonstrated clear signal in the villus cells with no apparent signal in the crypt cells, lamina propria or muscularis. Expression of this ***receptor*** was greatest after enterocytes leave the proliferative cycle and enter villi. This pattern of gene and protein expression may reflect a role of this ***receptor*** in binding endogenous ligands which in turn may regulate ***intestinal*** ion flux along the villus-to-crypt axis.